Defense Supply Center Philadelphia
West Coast Support Office
Alameda, California

Pest Facts

Phorid Fly (Humpbacked Flies)

Phorid or humpbacked flies are small, non-biting insects classically associated with moist decaying organic matter. Often a localized pest due to the availability of appropriate breeding sites, this fly may expand quickly due to an explosive reproductive potential. Although not considered medically important, the Phorid fly does frequent unsanitary areas and may mechanically transmit harmful bacteria, similar to filth flies. An effective management program is primarily based on finding and eliminating potential breeding areas both inside and outside infested structures.

IDENTIFICATION AND LIFE HISTORY

Phorid or humpbacked flies, are small (2-3 mm), dark (brown/black) flies that resemble fruit flies (Drosophila), but do not possess the classic red eyes of their cousins. The most prominent physical feature of this fly is its humpbacked shape caused by a large, arching thorax. Behaviorally, adults characteristically run rapidly across surfaces instead of immediately flying when disturbed.

Phorid flies undergo complete metamorphosis characterized by 4 developmental stages (i.e., egg, larva, pupa, adult). The female will lay about 40 eggs on or near the surface of decaying organic matter during any 12 hour period and approximately 500 during her lifetime. Larvae will hatch in about 24 hours and feed near the breeding site (little migration) during an eight to 14 day period. After completing development, the larvae crawl to a dry, secluded area to pupate. After about 3 days, adults appear, often in great numbers. The life cycle can be completed in as little as 14 days but may take as long as 40 days, depending on humidity and temperature. Remember, the warmer and more humid it is, the faster they will develop and reproduce.

MANAGEMENT

An effective management program depends on successfully identifying and eliminating current and potential breeding sites. Space insecticide treatment (i.e., fogs) does not constitute an effective management program. Rather this technique should only be used in conjunction with other techniques, if necessary. Application of residual pesticides (crack and crevice) to breeding sites is not effective.

Normally, an indoor infestation may be traced to a few isolated breeding areas. For example, examine areas where moisture exists around plumbing and drains in bathroom and kitchen areas, food service/preparation equipment, refuse receptacles, garbage disposals, crawl spaces, poorly ventilated damp storage areas. **Remember, look for moist, warm, secluded areas.** Initially concentrate on floor drains, if any are present. Fly larvae live in the moist film that develops on the sides of a drain and in debris which may become trapped on the edge of the drain. The presence of numerous adult flies inside a drain is a good sign that this is a breeding site. A knife or screwdriver can be used to scrape the film off the sides of the drain and examine it for live larvae (worm-like, maggots). Phorid flies will also breed in moist food debris that becomes trapped under equipment in commercial food operations.

To determine if the phorid flies are exiting through cracks in the floor or from a drain, pieces of masking tape may be placed over the crack or drain opening. Space should remain between the strips of tape to allow air movement for the flies to follow. If flies are existing the openings, some of them will get stuck to the sticky surface of the tape.

Outdoors they may be found around dumpsters, decaying vegetation, below leaking spigots, poorly drained areas, etc. **Observe where adult flies seem to be congregating.** While this step is time consuming and requires patience, remember it is vital to preventing or reducing the incidence of future infestations.

To prevent flies from entering buildings, insure windows are properly secured, window screens are in good repair, doors remain closed when not in use, and air screens over exterior doors are working and properly adjusted.

SUMMARY

Phorid fly management:

-Identify active or potential breeding areas: Remember, larvae require moist, decaying organic matter to survive. Drains are a primary location for phorid flies but anywhere moisture and warmth exist is a potential problem site.

-Eliminate breeding areas: Insure that breeding areas are made less attractive to the flies. Clean away organic matter, reduce the amount of moisture. Practice good housekeeping methods.

-Prevent access to buildings: Reduce breeding opportunities outdoors. Make sure garbage (organic) is placed safely away from the facility (about 100 ft from any entrance). Make sure all windows and doors are in good repair, screens fit properly, air screens over doors are properly adjusted and working at all times. Remove vegetation from locations next to the building. Insure proper drainage away from the building.

-Educate employees: Warehouse/food service workers and supervisors are your first line of defense. Inform workers about the problem and how they can contribute to the solution. Workers are often your best source of information and their participation is vital to prevention.

-Chemical: Pesticide application is generally unnecessary and may provide only temporary relief. Space treatments or fogs are used periodically to reduce the adult fly population **AFTER** breeding sites have been eliminated. Remember that space treatments only kill those flies which contact the chemical. They are not residuals with long lasting action. Spraying insecticides on breeding sites rather than eliminating them is is not effective and should not be considered.

-Review: Continue surveillance for breeding areas after the flies are gone. This will reduce the risk for future infestations.

For additional information, please contact the Entomology Department at the Defense Supply Center Philadelphia-West Coast Support Office, Alameda, California at DSN 686-8122, commercial 510-337-8122 or email paa5245@exmail.dscp.dla.mil